Institutional Arrangements for Harmful Algal Bloom Monitoring and Management in Puget Sound: An Analysis of SoundToxins

Andy Gregory
Puget Soundkeeper Alliance, andy@pugetsoundkeeper.org

Follow this and additional works at: https://cedar.wwu.edu/ssec
Part of the Terrestrial and Aquatic Ecology Commons


This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.
Institutional Arrangements for Harmful Algal Bloom Monitoring and Management in Puget Sound: An Evaluation of SoundToxins

Andy Gregory
University of Washington
School of Marine and Environmental Affairs
2011
Outline

I. Background - existing institutions
II. Problem Statement - why evaluation?
II. Methods - social science
I. Results
II. Discussion
   I. Recommendations
   II. Programmatic Restructure
I. Background

Sentinel Mussel Monitoring Program

Olympic Region Harmful Algal Blooms ORHAB PARTNERSHIP

SOUNDTOXINS
II. Problem Statement

✧ Initial interviews with SoundToxins program managers indicate that the program had **mixed success**.

✧ Sampling records show that **participation had been low among some partners** for sample collection and/or data sharing.

✧ SoundToxins faces a problem of **collective action**. Often groups of rational actors will not act to achieve a common interest. (Olson, 1965)

Hypotheses:

✧ Each partner incurs **different costs** to participate and derives **different benefits** from the program.

✧ The **information** provided by SoundToxins **is not sufficiently valuable** to shellfish managers to alter their harvest closure **decisions**.

✧ The **programmatic design** of SoundToxins is unfit for the **institutional setting** within which it exists.
III. Methods:

This study employed a mixed methods social science approach including:

- A review of the literature on collective action, club theory, value of information in decision-making and institutional analysis and development (IAD).

- Elite interviewing techniques to collect data from program managers and participants, shellfish managers, and the research community.

- A focus group was to address data communication issues, a primary concern for program managers.
IV. Results: Costs and Benefits

Managers

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Unseen</td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
</tbody>
</table>

Citizen Volunteers

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Part of a Group</td>
<td></td>
</tr>
<tr>
<td>Knowledge of local environ.</td>
<td></td>
</tr>
<tr>
<td>Educational opportunities</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
</tbody>
</table>
IV. Results: Value of Information

1. Does the presence of harmful species predict when a closure will occur?

2. Do you believe that cell counts provided by SoundToxins will help you to make better decisions?

3. Do you make different decisions when you have access to this information?

**DOH** - Yes, cell counts are helpful, the proof is in ORHAB.

**Commercial Growers** - Unsure if cell counts can predict toxic events. Want to avoid recalls, but feel HABs are currently well-managed.
## IV. Results: IAD Analysis

| Setting                           | Complex physical setting, several species  
|                                  | Diverse stakeholders                        
|                                  | Existing institutions that are perceived as more than effective. |
| Transaction Costs                | Lack of clearly established communication channels  
|                                  | Volunteer Coordination is time-consuming      
|                                  | Information Asymmetries exist                |
| Institutional Performance        | **Efficiency**- could be improved            
|                                  | **Accountability**- low in lieu of formalized agreements  
|                                  | **Adaptability**- medium to high (detect new species)    |
Several institutional differences exist between SoundToxins and ORHAB.

❖ Problem/setting complexity
❖ Stakeholder collaboration
❖ Effectiveness of existing institutions
❖ Secure source of funding
❖ Volunteer vs. professional samplers

Potentially the most critical difference is integration within existing institutions.
V. Discussion: Recommendations

✧ Support volunteers
✧ Streamline sampling process
✧ Formalize arrangements
✧ Work toward integration with DOH and other HAB monitoring networks
V. Discussion: Programmatic Restructuring

- Several changes since recommendations were made:
  - WA SeaGrant contracted to provide volunteer support
  - Sampling manual produced simplifying sampling technique - only harmful species
  - Action thresholds for reporting
  - Volunteers now sign a contract - formalizing agreements with program managers
  - Database has been upgraded and is now managed by NOAA - DOH has access and checks on a regular basis
 QUESTIONS?

✧ **Thank you** to my committee:
✧ Chair- Tom Leschine- School of Marine and Environmental Affairs
✧ Nives Dolsak- School of Marine and Environmental Affairs
✧ Vera Trainer- NOAA Northwest Fisheries Science Center

Funding provided by Oceans and Human Health Grant